

Building a Rice Decision Support System to Support Global Food Security and Commodity Markets, Phase I

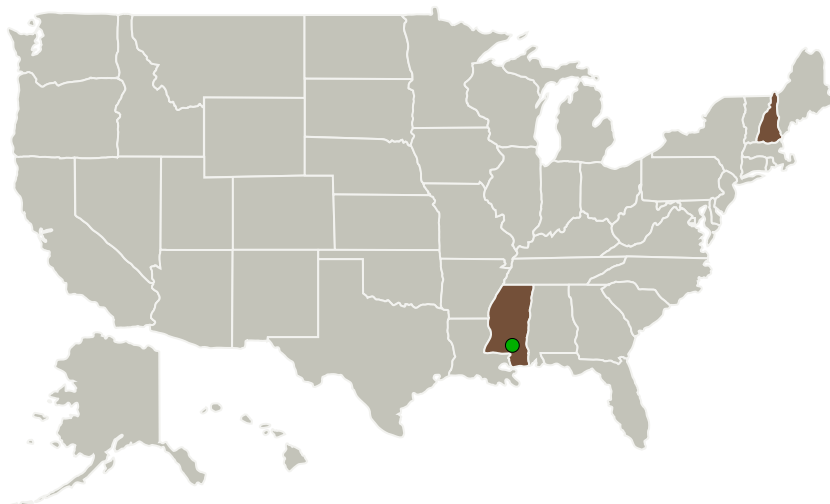
Completed Technology Project (2013 - 2013)



Project Introduction

Rice is an important crop globally that influences food security and the Earth system. Rice is the predominant food staple in many regions with approximately 700 million tons of production annually across the globe. Rice is sensitive to a variety of drivers that can adversely impact production and efficiency including weather variability and inter-seasonal volatility, water resources, and risk management decisions (e.g., pests). Futures are a tool used to manage or hedge risk, reduce volatility, improve food security, and maximize efficiency and profit on the open market. Currently, the rice futures market has little high quality and timely information available to make strategic or application specific decisions to reduce risk and maximize profit. The global rice futures market is thinly traded causing extreme price fluctuation orders of magnitude. This innovation gap has created an opportunity to build an operational Rice Decision Support System to support the rice futures market. The overarching goal of this NASA Phase I SBIR is to evaluate the feasibility of a Rice Decision Support System (RiceDSS) to Support Global Food Security and Commodity Markets. RiceDSS brings together operational remotely sensed mapping of rice, crop production modeling, and weather forecasts to seamlessly generate near real time information on rice extent, growth stages, yield forecasts and statistical uncertainty. RiceDSS uses state-of-the-art web-GIS and mobile technologies to support visualization and delivery of information to futures markets and food security programs.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
Applied Geosolutions, LLC	Lead Organization	Industry	Durham, New Hampshire
● Stennis Space Center(SSC)	Supporting Organization	NASA Center	Stennis Space Center, Mississippi

Primary U.S. Work Locations	
Mississippi	New Hampshire

Project Transitions

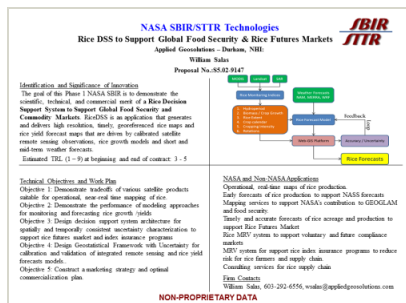
May 2013: Project Start

November 2013: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/140463>)

Images



Project Image

Building a Rice Decision Support System to Support Global Food Security and Commodity Markets (<https://techport.nasa.gov/image/129877>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Applied Geosolutions, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torre

Principal Investigator:

William Salas

Co-Investigator:

William Salas

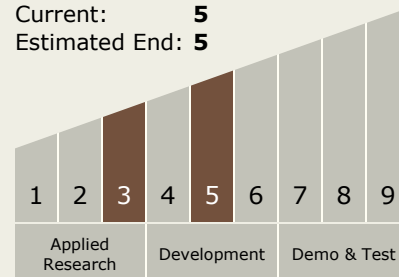
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Technology Maturity (TRL)

Start: **3**
Current: **5**
Estimated End: **5**



Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
 - └ TX11.4 Information Processing
 - └ TX11.4.4 Collaborative Science and Engineering

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System